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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,531	08/17/2001	Douglas W. Akers	B-124	4276

7590 03/22/2005

Alan D. Kirsch  
Bechtel BWXT Idaho, LLC  
P. O. Box 1625  
Idaho Falls, ID 83415-3899

EXAMINER

PALABRICA, RICARDO J

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/932,531

Applicant(s)

AKERS

Examiner

Rick Palabrica

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7, 8, 20-24, 26-28 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8, 20-24, 26-28 and 30-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                       |                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____                                                |

### **DETAILED ACTION**

1. Applicant's 12/29/04 response, which traverses the rejection of claims in the 9/27/04 Office Action, is acknowledged. Applicant's arguments have been fully considered but they are not persuasive. These arguments, where considered appropriate, are addressed in specific sections of this Office Action.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 20-24, and 26-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims are rejected for the same reasons given in section 3 of the 9/27/04 Office Action, which reasons are incorporated herein.

As to the traverse of claim 20 regarding the Doppler broadening algorithm, Applicant himself admits that there is a plurality of known Doppler broadening

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algorithms, and the alleged Akers "Doppler broadening" algorithm in U.S. Patent 6,178,218B is an example of one of these algorithms. Each of these algorithms, which the Applicant alleges to be well known in the art, is specific to the particular problem being solved by the individual artisan. Thus there is no universal Doppler broadening algorithm that could be used for any problem, including that being claimed to be addressed by the Applicant. Thus, Applicant's argument that his disclosure is enabling because of his citation of said Akers "algorithm" is insufficient to overcome the lack of enablement as to how and in what manner an algorithm should be selected from these plurality of algorithms for diverse applications, and/or how and in what manner this selected algorithm is to be modified, as necessary, in order to achieve the intended results of the claimed process.

The same response applies to Applicant's traverse regarding the positron lifetime, 3-D imaging, and selective activation algorithms.

As to the matter of Applicant's misdescriptive term, "activating a positron emitter", his arguments are not convincing for the reasons already succinctly described in the 9/27/04 Office Action.

3. Claims 20-24, and 26-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague and indefinite and their metes and bounds cannot be determined for the reasons given in section 3 above.

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The claims are rejected for the same reasons given in section 4 of the 9/27/04 Office Action, which reasons are incorporated herein.

As to the traverse of the claims, Applicant's arguments are unconvincing for reasons already succinctly described in the 9/27/04 Office Action.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over: a) Akers et al. (U.S. 6,178,218 B1) in view of Richard B. Firestone, "The Berkeley Laboratory Isotopes Project, Exploring the Table of Isotopes," (<http://ie.lbl.gov/education/isotopes.htm>) alone; or b) Akers et al. in view of the combination of Firestone and Obermayer (U.S. 3,662,882). Akers et al. disclose the applicant's claims except for the use of a photon source.

The claims are rejected for the same reasons given in section 5 of the 9/27/04 Office Action, which reasons are incorporated herein.

Applicant alleges that the Examiner improperly used his claimed invention to derive the teaching of photon activation to form <sup>62</sup>Cu. The Examiner disagrees because the teaching was derived from the art of record. As stated in the previous Office Action, Akers et al. disclose an exemplary embodiment in Fig. 1 wherein the specimen is an

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aluminum alloy that is activated by a neutron source 12. Activation of copper atoms in the specimen produces positron emitters, including  $^{64}\text{Cu}$  and  $^{62}\text{Cu}$ . They disclose that  $^{62}\text{Cu}$  is produced from an (n,2n) reaction in  $^{63}\text{Cu}$ . (The specification in Table I identifies  $^{63}\text{Cu}$  and  $^{62}\text{Cu}$  as among the plurality of precursors and positron emitters, respectively, that could be used to exercise the invention).

Richard B. Firestone, "The Berkeley Laboratory Isotopes Project, Exploring the Table of Isotopes," teaches that  $^{62}\text{Cu}$  can be produced by any one of: a) charged particle reaction; b) photon reaction; or c) fast neutron activation (click on Cu on the Periodic Table of Elements to view Production Mode). Applicant's claim language, "photon source" reads on the expedient to generate the photons and effect the photon reaction taught by Firestone.

Thus, Firestone teaches that  $^{62}\text{Cu}$  can be produced not only by neutron activation a la Akers et al. but also by photon activation. Both the primary reference and the teaching from the secondary reference used to modify the primary reference came from prior art and not from the Applicant's disclosure.

Applicant alleges that the Firestone reference is improper to use for the rejection because the Firestone information was published "long after Applicant's filing date of August 17, 2001." The Examiner disagrees. The Internet Archive Wayback Machine (<http://web.archive.org>) categorically proves that the information cited by the Examiner in the rejection was available to the public as **early as January 17, 1999**. See attached PTO-892.

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Applicant traversed Obermayer on the ground that he teaches a solution to a problem that is not relevant to Applicant's claimed invention. The Examiner disagrees. Applicant's arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach, nor, has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references is improper or invalid. Modifying Akers et al. by the combination of Firestone and Obermayer yields the same result that the Applicant attempts to achieve with his invention.

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of the Akers et al.- Firestone combination or the Akers et al.-Firestone-Obermayer combination, as applied to claims 1, 5 and 8 above, and further in view of Miller (U.S. 4,980,901). Either one of the Akers et al.- Firestone combination or the Akers et al.-Firestone- Obermayer combination disclose the applicant's claims except for the use of an accelerator to generate photons.

The claims are rejected for the same reasons given in section 6 of the 9/27/04 Office Action, which reasons are incorporated herein.

Applicant traversed the use of Miller on the ground that it not proper to combine the teaching of Miller with the above combinations. The Examiner disagrees. Applicant's arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach, nor, has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references is

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improper or invalid. For example, as stated in the previous Office Action, Miller in the same art of non-destructive examination as Akers et al. and Obermayer. Modifying either one of the cited combinations yields the same result that the Applicant attempts to achieve with his invention.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over either one of the combination of Akers et al. and Firestone or Akers et al., Firestone and Obermayer.

In his response to the rejection of this claim under 35 U.S.C. 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraphs in the previous Office Action, Applicant himself admits that the data processing system associated with the photon source is well known in the art (see page 10, 4<sup>th</sup> paragraph of the Response).

Therefore, having a data processing system operatively associated with the photon source for either one of combination of Akers et al. - Firestone combination or the Akers et al.- Firestone-Obermayer is obvious because it is a well known expedient, by Applicant's own admission.

MPEP 2129 [R-1] states:

"When applicant states that something is prior art, it is taken as being available as prior art against the claims. Admitted prior art can be used in obviousness rejections."

7. Claims 20-24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of either Akers et al.-Firestone or Akers et al.-Firestone-Obermayer, in view of either one of Gedcke (ORTEC AN 59, "How Counting Statistics



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Controls Detection Limits and Peak Precision”) or Simon Fraser University, Radiation Safety Office (Radiation Counting Statistics) and as a matter of optimization.

The claims are rejected for the same reasons given in section 7 of the 9/27/04 Office Action, which reasons are incorporated herein.

Applicant alleges that Gedcke and Simon Fraser references are not appropriate prior art because of their date of publication. The Examiner disagrees. The Internet Archive Wayback Machine (<http://web.archive.org>) categorically proves that the Gedcke was available to the public as **early as July 20, 2001**, and Simon Fraser as **early as July 7, 2001**. See attached PTO-892.

The Examiner also disagrees that there is no proper motivation to combine Gedcke or Simon Fraser with either Akers et al.-Firestone or Akers et al.-Firestone-Obermayer. This motivation is succinctly discussed in Section 7 of the 9/27/04 Office Action.

8. Claims 26, 27, 28 and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of either Akers et al. and Firestone alone or Akers et al. with Firestone and Obermayer, in view of IDS paper, “Positron Annihilation Spectroscopy.”

The claims are rejected for the same reasons given in section 8 of the 9/27/04 Office Action, which reasons are incorporated herein.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 703-306-5756. The examiner can normally be reached on 6:30-5:00, Mon-Thurs..

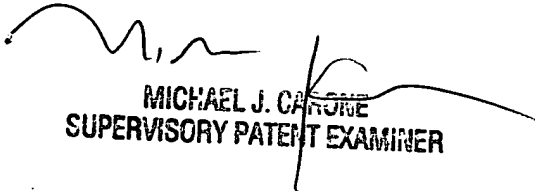
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Carone can be reached on 703-306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJP

March 14, 2005



MICHAEL J. CARONE  
SUPERVISORY PATENT EXAMINER